

May 5, 2004
Case No.: PHD 99,088 (7790/352)
Serial No.: 09/763,845
Filed: February 27, 2001
Page 2 of 20

SPECIFICATION AMENDMENTS:

Please amend the paragraph beginning at page 1, line 28 as follows:

A1
"The object is achieved by a wireless network ~~of the type defined in the opening paragraph~~ employing a base station and a plurality of assigned terminals, in that the base station includes a device for correlating a signaling sequence transmitted by at least one terminal to indicate the wish to use a contention channel and for detecting the pulse evolved from a received and correlated signaling sequence, and in that the base station, after the detection of a signaling sequence, is provided for transmitting a provision message over a contention channel to be used by one of the assigned terminals."

Please amend the paragraph beginning at page 2, line 19 as follows:

A2
"Such a signaling sequence may be a Golay Gold or Kasami sequence ~~(compare claim 4)~~ having good auto and cross-correlation properties. The base station includes a device (for example, a matched filter) in which a correlation is effected of the received signaling sequences. The pulse evolved from the correlation is detected ~~(claim 3).~~"

Please amend the paragraph beginning at page 2, line 27 as follows.

A3
"~~Patent claim 2 indicates that after~~ After a signaling sequence has been transmitted by a terminal, and a provision message has been received, a terminal identification and/or at least a data packet is transmitted over the contention channel. However, it is then not impossible for a terminal to use a plurality of contention channels ~~(claim 5)~~. A terminal can also use one of various time slots of the transmitting-end reference frame for transmitting a signaling sequence ~~(claim 8)~~, as a result of which there is less probability of collisions. ~~Claim 9 indicates a further measure to reduce the probability of collisions.~~ There is proposed to use one signaling sequence from a plurality of signaling sequences. Different signaling sequences may also be used for requesting one or more contention channels with different data rates ~~(claim 10).~~"

May 5, 2004
Case No.. PHD 99,088 (7790/352)
Serial No : 09/763,845
Filed: February 27, 2001
Page 3 of 20

Please amend the paragraph beginning at page 3, line 3 as follows:

A4
"The ~~claims 6 and 7 indicate what measures are~~ Also, measurements can be
taken when a terminal does not receive an acknowledgement of the reception of a
signaling sequence, or an acknowledgement of the reception of data transmitted by
one or more contention channels "

Please amend the paragraph beginning at page 3, line 24 as follows:

A5
"Fig. 1 shows a wireless network, for example, a radio network, comprising a
plurality of base stations ("BS") 1 to 3 and a plurality of terminals ("TL") 4 to 14.
Certain terminals 4 to 14 are assigned to a base station 1 to 3. In the example shown
in Fig. 1, ~~the base station is assigned the terminals 4 to 7~~ are assigned to base station
~~1, the base station 2 the terminals 8 to 10~~ are assigned to base station 3, and the base
~~station 3 the terminals 11 to 14~~ are assigned to base station 3. An exchange of control
data takes place at least between the base station and the terminals. An exchange of
user data can take place between the base station and the terminals as well as between
the terminals. In both cases the link for the transmission of user data is set up by the
base station. The terminals 4 to 14 are usually mobile stations which are controlled by
a stationary base station 1 to 3. However, a base station 1 to 3 may also be mobile, as
appropriate."

Please amend the paragraph beginning at page 5, line 1 as follows:

A6
Cont
"For user data to be exchanged between the base station and a terminal it is
necessary that the terminal is synchronized with the base station. For example, from
the GSM system (GSM = Global System for Mobile communication), in which a
combination of FDMA and TDMA method is used, it is known that after a suitable
frequency range has been determined on the basis of predefined parameters, the
posiuon in time of a frame is determined (frame synchronization) with the aid of
which the sequence in time for transmitting data is determined. Such a frame is
always necessary for the data synchronization of terminals and base station in TDMA,
FDMA and CDMA methods. Such a frame may contain various sub-frames or form a

May 5, 2004
Case No.: PHD 99,088 (7790/352)
Serial No.: 09/763,845
Filed: February 27, 2001
Page 4 of 20

Ab
concl

superframe together with a plurality of other successive frames. For simplicity, a frame denoted reference frame will be started from in the following. This reference frame may be, for example, the frame having a duration of 10 ms in the UMTS system."

Please amend the paragraph beginning at page 7, line 24 as follows:

A7

"The duration of the defined time slot (or time window) for the transmission of the signaling sequence and the duration of a signaling sequence depends on the following factors. A first factor forms the accuracy of the estimate of the propagation delay of the signaling sequence to be transmitted from the terminals to the base station, a second factor is the delay spread characteristic based on multi-path propagation, a third factor is the auto-correlation properties of the signaling sequences of the terminals and a fourth factor is the cross-correlation properties of the signaling sequences of the terminals with signaling sequences of adjacent radio cells."

Please amend the paragraph beginning at page 8, line 25 as follows:

A8
cont

"The block diagram shown in Fig. 3 of a receiver of a base station contains as known elements (for example, from GSM mobile radio system or a CDMA system) an antenna 15, a high-frequency block ("HF") 16, an intermediate frequency block ("IF") 17, an analog/digital converter ("A/D") 18, a demodulator ("DEMODO") 19 and a switching block ("SB") 20 which executes, for example, the switching functions of channel demultiplexing, de-interleaving, channel decoding and, when a CDMA system is used, also de-spreading. The control and user signals occurring in the baseband are applied to a channel access control block ("CAC") 23 which transfers the various signals to the respective units for further processing, for example, to a switching center. According to the invention, the receiver of the base station includes a matched filter ("MF") 21 which checks the received signals to find whether there is a signaling sequence. If a signaling sequence has been detected, this is established by a next peak detector ("PD") 22 and announced to the channel access control block 23

May 5, 2004
Case No.: PHD 99,088 (7790/352)
Serial No.: 09/763,845
Filed: February 27, 2001
Page 5 of 20

A8
Concl

which may be, for example, a processor. The channel access control block 23 leads this message to further control elements downstream in the circuit and not represented here, which then, for example by means of generated control data, assign a user channel to the terminal via the transmitter of the base station."

Please amend the paragraph beginning at page 9, line 6 as follows:

A9

"The transmitter of the base station represented in Fig. 4 also includes a channel access control block ("CAC") 24 which receives data from various sources ("DS") 25. Such a source may be, for example, a switching center which produces user data, or a control element which supplies control data. For example, these control data may contain a provision message about a signalized RACH channel to be used for a terminal, which terminal has previously requested a signalized RACH channel by means of a signaling sequence. The switching block ("SB") 26 following the control block 24 carries out the switching functions of, for example, channel coding, interleaving, channel multiplexing and, when a CDMA system is used, also spreading. The output signal of the block 26 is applied to an antenna 31 via a modulator ("MOD") 27, a digital/analog converter ("D/A") 28, an intermediate-frequency block ("IF") 29 and a high-frequency block ("HF") 30. All the elements 25 to 31 may be elements known from existing mobile radio systems."

Please amend the paragraph beginning at page 9, line 17 as follows:

A10
cont

"A block circuit diagram of a receiver of a terminal is shown in Fig. 5. This receiver includes as elements known from, for example, a GSM mobile radio system or a CDMA system, an antenna 32, a high-frequency block ("HF") 33, an intermediate-frequency block ("I/F") 34, an analog/digital converter ("A/D") 35, a demodulator ("DEMOD") 36, a switching block ("SB") 37 having several functions and a channel access control block ("CAC") 38 which supplies control and user data to various sinks (for example, low-frequency circuit for converting user data into speech data). The block 37 is charged with, for example, the switching functions of

May 5, 2004

Case No : PHD 99,088 (7790/352)

Serial No.: 09/763,845

Filed: February 27, 2001

Page 6 of 20

A/D
Concl

channel demultiplexing, de-interleaving, channel decoding and, when a CDMA system is used, de-spreading. The channel access control block 38 evaluates certain channels relevant to the terminal such as, for example, a user channel or a downlink broadcast control channel. This information is transferred to certain other circuit elements in the terminal which are not further shown here "

Please amend the paragraph beginning at page 9, line 28 as follows:

g11

"The terminal includes in a transmitter whose associated block circuit diagram is shown in Fig. 6, also a channel access control block ("CAC") 39 which controls the channel access. The channel access control block 39 delivers data to a switching block ("SB") 42, which executes the switching functions of channel coding, interleaving, channel multiplexing and, when a CDMA system is used, also spreading. The user data and control data are received from different sources by the channel access control block 39. Such a source may be, for example, a low-frequency circuit which produces speech data as user data, or a control element which supplies control data. For example, these control data may be information about the start time of a signaling sequence. A time controller ("TC") 40 indicates the instant at which a signaling sequence is transmitted and also the beginning and the end of a time slot. The generator includes a memory for storing various signaling sequences. The signaling sequence to be transmitted is selected from the channel access control block. Signaling sequences may be written, as appropriate, in the memory of the generator ("GEN") 41. The generator 41 and the time controller 40 are initialized after the information is received about the signaling sequence to be used. When no change of the signaling sequence and/or start time is indicated by the associated base station, a further initialization of generator 41 and time controller 40 is not necessary."

May 5, 2004
Case No.: PHD 99,088 (7790/352)
Serial No.: 09/763,845
Filed: February 27, 2001
Page 7 of 20

Please amend the paragraph beginning at page 10, line 10 as follows:

A12
"The user data and control data processed in the block 42 are supplied to a superposition circuit (" Σ ") 43, which further receives output signals of the generator 41. The output signal produced by the superposition circuit 43 is transmitted via a modulator ("MOD") 44 to a digital/analog converter ("D/A") 45, an intermediate frequency block ("IF") 46 and a high-frequency block ("HF") 47, which radiates by an antenna 48 the signals formed in the high-frequency block "

Please add the following paragraph beginning on page 10, line 15 as follows:

A13
"While the embodiments of the invention disclosed herein are presently considered to be preferred, various changes and modifications can be made without departing from the spirit and scope of the invention. The scope of the invention is indicated in the appended claims, and all changes that come within the meaning and range of equivalents are intended to be embraced therein."

Please amend the claim heading at page 11, line 1 as follows:

A14
"~~CLAIMS:~~ The Invention Claimed is:"

Please amend the Abstract as attached hereto.